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THE MACKAY CYCLONE OF 21 JANUARY, 1918

by

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Abstract: A description of the Mackay cyclone of 21st January 1918 from the log of the Lightkeeper Flat Top Island supplied by Captain G.F. Long of the Company of Master Mariners of Australia, is supplemented by extracts from records and charts held at the Brisbane Divisional Office of the Commonwealth Bureau of Meteorology.

The cyclone track appearing in Bureau of Meteorology, Bulletin No. 16 "Australian Hurricanes and Related Storms" has been extended.

1. INTRODUCTION

The following account of the disastrous cyclone at Mackay on 21 January, 1918, has been taken from the log of the Lightkeeper, Flat Top Island (21.2°S , 149.2°E) supplied by Captain G.F. Long of the Company of Master Mariners of Australia.

"The weather which had been getting worse from Friday the 18th developed a full gale force on Sunday the 20th.

The s.s. "Bingera" arrived on time, but although the tender succeeded in getting alongside it was impossible to tranship any passenger owing to the high sea which was running.

The weather rapidly got worse during Sunday afternoon, and with the barometer steadily falling, there was every indication of a cyclone blowing home on the coast within very close proximity. At sunset the wind was SSE blowing at a velocity of 65 miles an hour, and accompanied by a fierce and almost continuous rain squalls.

At 10 p.m. the barometer had fallen to 29.45, and the gale had increased to almost hurricane force. At this hour a weather report from Brisbane stated the centre of cyclone was now probably only 150 miles from Mackay, and

still moving south-westward which information confirmed my opinion that the full force of the gale would pass over or very near to us, and that we could expect the worst soon after daylight in the morning.

At 10.30 p.m. we had the last telephone communication with Mackay that we were destined to have for some time, the telephone getting out of order almost immediately afterwards.

At midnight the wind had increased to full hurricane force, and the iron roof on the weather side of the cottage began to work loose, the water pouring into the front rooms. The wind still remained SSE, and with still five hours until daylight. With the rising tide during that period it was not difficult to judge that much damage would be done in Mackay by the cyclone.

At 2 a.m. (21/1/18) so much of the iron roof had gone that the house was flooded everywhere except one small section of the back verandah where we all huddled as best we could, trusting that the walls of the house would at least stand. At 4 a.m. the barometer had fallen to 28.40, and was still going rapidly down, this indicating that the centre of the gale was approaching us fast, but would pass over us in daylight hours.

Daylight broke slowly at 5.30 a.m., and a glimpse outside showed an indescribable state of ruin. The fence around the cottage was down, and all outbuildings including the schoolhouse, storeroom, W.C. and fowlhouse were destroyed. The flagstaff was wrecked, and also the anemograph tower, and some lighthouse windows broken. In order to try and save the lighthouse apparatus, I struggled out to the tower and succeeded in getting inside and extinguishing the light which was now flaring badly owing to the increased draught from the broken windows.

The task of getting back to the house was exceedingly dangerous owing to the broken material and iron which was flying about, but I was fortunate enough to escape with a few bruises only.

The barograph had now, at 6 a.m., dropped to 28.00 that is to say the needle was resting on the rim, not being able to get any lower, and the wind was howling worse than ever. The house was shaking ominously, and becoming afraid

that the rafters would break and so leave the walls without support, I decided to try and get the women and children down to a little building on the north side of the Island, which, being bedded in cement and still intact, seemed the safest place.

With much difficulty I managed to get everyone safely down the side of the Island to this little building, and we had just succeeded in getting there when at 7 a.m. the wind veered round to east, and shortly afterwards to NE, meanwhile increasing in force. There now ensued an anxious and trying four hours, during which time the cyclone raged with its full force, and although the little building in which we had taken shelter was stoutly enough built and stood the hurricane manfully, it seemed every minute as if the building would be hurled bodily into the sea, and all of us with it.

The continuous pouring rain and salt water spray added to the miserable situation, and when it seemed the women and children could bear no more, being completely exhausted, the wind moderated a little.

I now struggled back to the house and found everything much as we had left it four hours previously, so decided to shift everyone back up the hill again. This was accomplished with much difficulty, but fortunately nobody was injured, and at noon I got a primus stove burning, making some tea which, as can be imagined, was more than welcome.

The barograph was now rising rapidly, and although the wind blew with great force, the worst of the gale had undoubtedly passed over. As near as possible I should say that from 8 a.m. to 10 a.m. (21/1/18) the cyclone was at its worst, but opinions will of course vary as to this. The wind continued to blow with full gale force during the afternoon and throughout the night of the 21st, and the rain poured down unceasingly.

I made an effort to get some kind of light burning on the evening of the 1st, but the broken or cracked windows allowed so much draught in that the attempt was not a success.

I remained awake throughout the night of the 21st in hope of some steamer calling, and above all to warn vessels that the light was damaged, but no vessels were seen. At daylight on the 22nd the wind had dropped to a fresh

gale, but the rain showed no sign of ceasing. I struggled down to the beach as soon as possible, and the damage around the landing place was so great that the entire shoreline was altered, and the boatshed and boat cable house and drayshed had been swept completely away. Huge boulders and masses of debris had been hurled far higher than the previously highest tidal mark, and the embankment along the north side of the Island made in connection with the Outer Harbour was completely demolished.

The beach was strewn with thousands of dead birds, and also fish of all description, including several large sharks and rock cod, and many birds though still alive were too exhausted to move.

During the day it rained so heavily that I could not get a glimpse of Mackay and, in view of the damage which had been done here, I felt that the town and district had suffered badly.

I succeeded during the afternoon in fixing up a hurricane lamp inside the lighthouse apparatus, and also fixed canvas as well as possible over the broken windows.

At 4.30 p.m. the "Bingera" arrived from the north, but the rain was too heavy to permit me to signal by semaphore, and the ship had left again by 6 p.m., when I could have morsed a message. Under the circumstances, seeing that they could only get an imperfect view of the Island, and getting a glimpse of the damaged houses, the "Bingera" Officers were justified in afterwards expressing the opinion that we were probably all dead.

The "Bingera" did not proceed far after leaving the anchorage, but again anchored inside and to the south of Round Top until 5 the next morning. I tried repeatedly to get a message to the ship during the night, but the continuous rain prevented me from doing so, and another anxious night slowly passed.

At 9 a.m. on the 23rd the weather cleared for a few minutes, and we got our first glimpse of Mackay since the 20th. The water seemed to be all over the lower part of the town near the wharves, no lighters could be seen and the bridge was broken, the north side portion being gone.

The weather settled down thick and rainy again, and we were unable to see anything further.

At 2 p.m. the "Arawatta" arrived and anchored on the west side of the Island, and as the rain ceased for a few minutes I was able to semaphore and ask them to send a boat ashore. A boat was sent and I explained to the Officer in Charge what had happened, and requested him to send a wireless message to the District Officer, also to warn other vessels near at hand that the light was damaged and out of order. As all our provisions had been destroyed or badly damaged, I also asked him if the ship could supply me with some, which request was immediately acceded to, and a supply of meat and bread was brought over.

In connection with this matter I desire to express my keen appreciation of Captain Hall's kindness in sending us a supply of food.

The Master of the "Arawatta" decided to wait until next morning in the hope of hearing some word from Mackay, and his judgment was sound in this respect, as soon after dark a flash of light could be seen from the direction of the town, and the first signal being startling enough, it being S.O.S. meaning undoubtedly 'send immediately assistance.'

The difficulty now experienced was that although I could see the light from the town quite plainly, it being a powerful lamp, they could not see my answering light. The signal after being given many times was followed by the words 'disastrous floods', but although I waited around all night the weather did not clear sufficiently for them to see my light, and I received no more details.

At 9 p.m. I signalled the following message to the "Arawatta" - "Mackay is morsing disastrous floods - weather too bad to get remainder of message - please wire Brisbane to send assistance at once". This the ship promised to do, and the knowledge that the outside world knew of our straits made our minds a little easier.

The "Arawatta" proceeded at daylight on the 24th and at 10 a.m. the rain, which had been practically continuous from sunset on the 20th, ceased for an hour, and only continued showery during the remainder of the day and night.

At 2 p.m. the "Bombala" arrived, and on being informed that no lighters were visible in the river, and that I considered that they were all ashore or damaged, the ship replied that she would proceed to Townsville.

At 3.30 p.m. the "Wyreema" arrived from south, and the same information was signalled as to the "Bombala".

While coming back from signalling the "Wyreema" the weather being fairly clear, I looked through the telescope towards Mackay, and saw flags flying from the Pilot Station Flagstaff. I at once got into communication with the "Wyreema" again, telling them to wait until I had read the signal. The signal was "Will use morse code tonight, are you all well". I replied "Yes" and then asked the "Wyreema" if she would wait for the further message, at the same time telling them I considered the message one of the utmost importance. The ship consented to do so, and soon after 7 p.m. the message was received from Mackay which disclosed how serious matters were.

The message was as follows - "Cyclone, floods and tidal wave losses 14, bodies recovered, all wharves and sugar stores have collapsed. Relief, Quasha and Brinnawar sunk. Tay, Apa and Pelican ashore. Mackay is on military rations and only 10 days food supply on hand. No literage plant available. The country has suffered badly, it is urgent that Government send steamer capable of entering river with supplies of food also large quantity of galvanised iron and timber. All buildings, Pilot Station and Signal Station unroofed and vacated by crew. All marks except lighthouse destroyed and no means of replacing same. Boatshed and all plant completely swept away."

This message was from the Harbour Master to the Port Master, Brisbane.

I also sent the following message to the District Officer - "Station badly damaged in cyclone, forward two panes glass for windows, three panes red sector also quantity wick and cylinders. Cottage unroofed on two sides and not habitable, enough food for five days, all safe."

At midnight the "Wyreema" proceeded north, and for the first time since Sunday 20th with something like easy minds. The Harbour Master arrived at the Station on the morning of the 25th bringing in a supply of food, and also left some telegrams to forward by passing steamers if possible. The "Bingera" arrived at 10 a.m. on the 27th and signalled that Captain Hood was on board with a gang of men to execute repairs. Captain Hood and the men landed in one of the "Bingera's" boats at noon, and having brought some material, temporary repairs were quickly put in hand.

I cannot close this account without mentioning the promptitude which Captain Hood, District Officer, acted after receiving the information that the Station had suffered so badly, receiving the information on Friday afternoon, he at once took steps to proceed to Gladstone by train in order to catch the "Bingera" sailing on Saturday afternoon. Men and material had to be procured and transported to Gladstone by rail, but everything was successfully accomplished, and I am proud to say that Captain Hood was the first official to arrive in Mackay in order to put the work of repairs in hand being accompanied by Foreman Carpenter Graham.

Retrospect.

On the third anniversary of the disastrous cyclone in Mackay and District it is not inappropriate to recall the abnormal quantity of rain which accompanied and succeeded the blow.

From 9 a.m. on Saturday, January 19th, to 8.30 p.m. on Sunday, the 20th, the rainfall was light totalling 52 points. The full effects of the cyclone were experienced after midnight on Sunday, and until the middle of Monday forenoon, and when the rain gauge was read on Tuesday at 9 a.m. it registered 24.66 with an additional 9.20 inches for the $7\frac{3}{4}$ hours to 4.45 p.m. From the latter hour to 9 a.m. on Wednesday 8.05 was registered, a further 1.76 to 3 p.m. and 11.85 for the next 18 hours to 9 a.m. on Thursday after which there was partial clearance as the next 24 hours yielded only 68 points. Thus from 8.30 p.m. Sunday to the following Friday at 9 a.m. no less than 56.20 inches was registered and with the addition of 21.46 inches which fell earlier in the month, the first 25 days of January, 1918, witnessed a rainfall of 77.66 inches, quite the wettest period in the 50 years meteorological records of Mackay."

2. THE SYNOPTIC SITUATION

Figs 1 - 6 covering the period 18/1/18 to 22/1/18 show the development of the cyclone over the northern Coral Sea waters and its movement south-westwards across the central coast of Queensland at Mackay.

On the 18th the Divisional Meteorologist, Brisbane drew attention to Coral Sea developments.

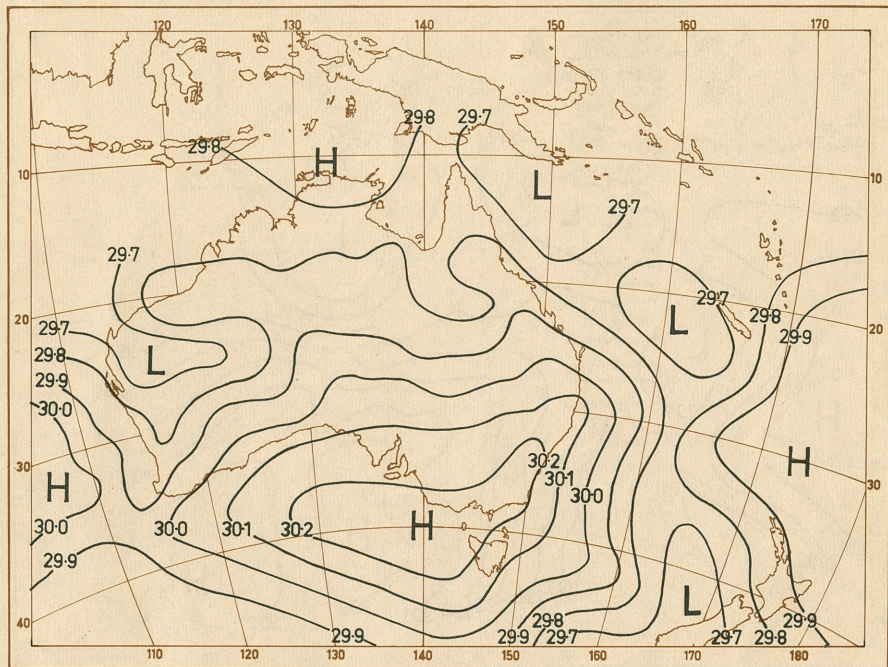


Fig 1. M.S.L. Isobars (inches) 9 a.m. 18th. January 1918.

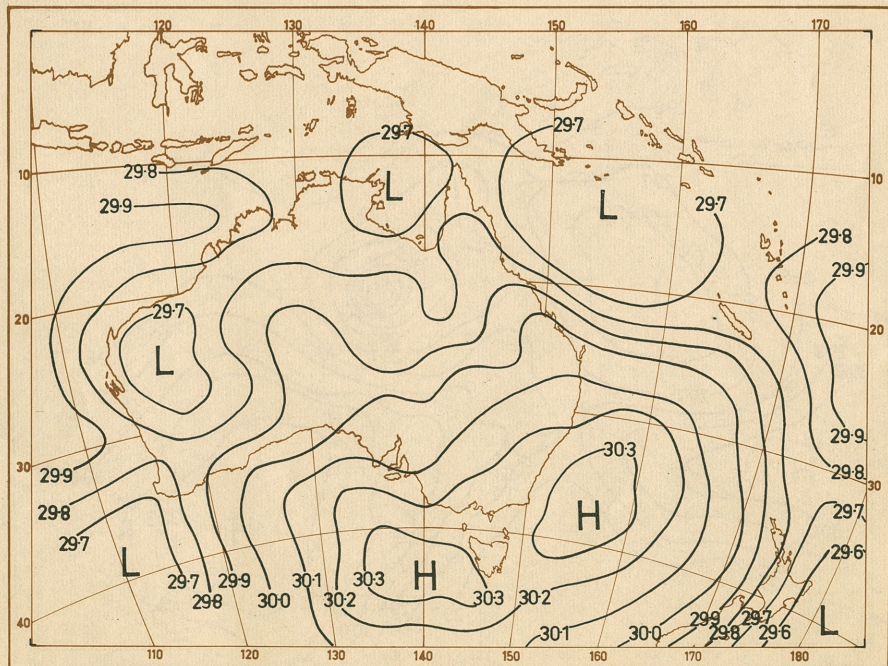


Fig 2. M.S.L. Isobars (inches) 9 a.m. 19th. January 1918

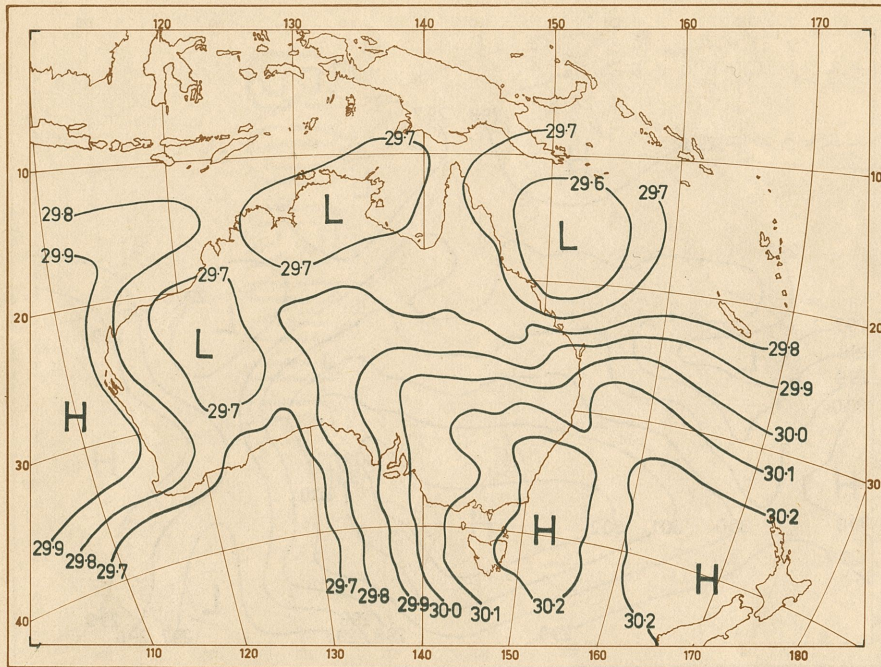


Fig 3. M.S.L. Isobars (inches) 9.a.m. 20th. January 1918.

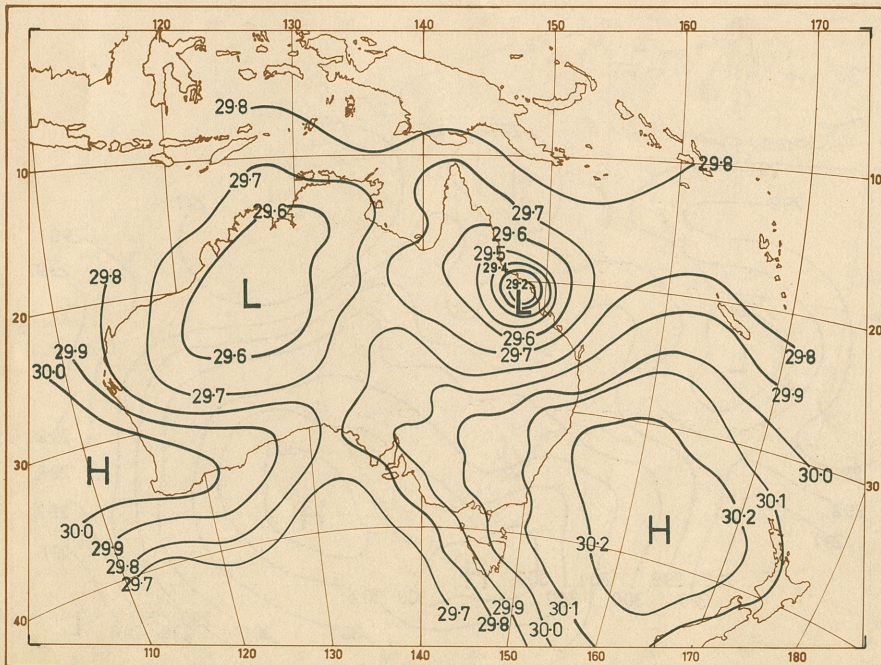


Fig 4. M.S.L. Isobars (inches) 9.a.m. 21st. January 1918.

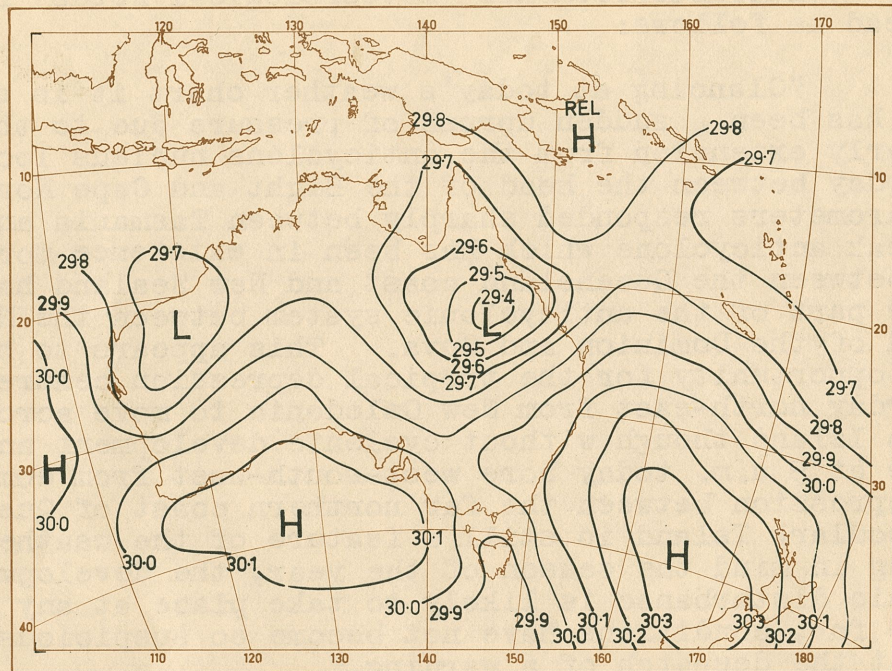


Fig. 5. M.S.L. Isobars (inches) 9.a.m. 22nd. January 1918.

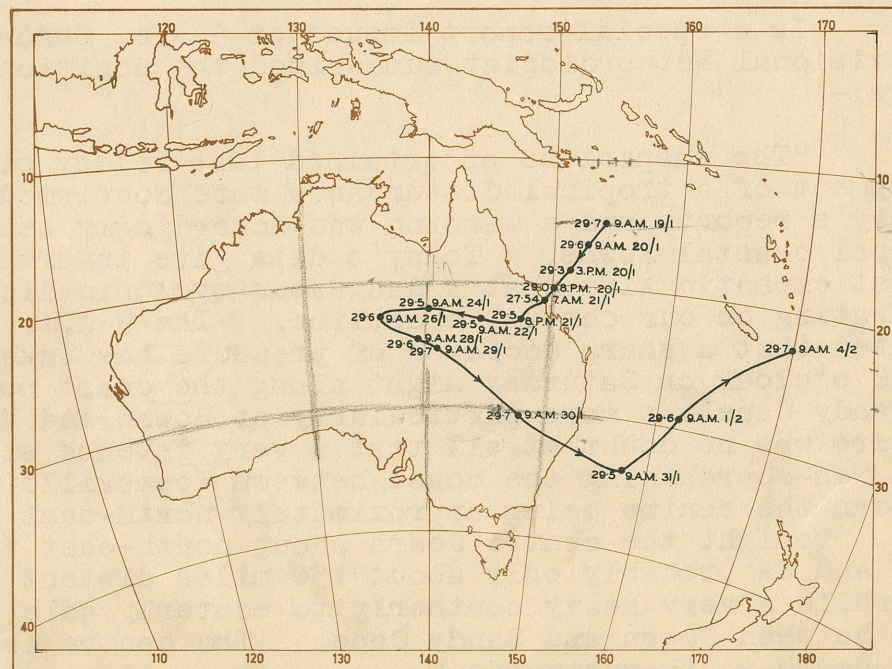


Fig. 6. Track of the cyclone of January 1918. Central pressure shown in inches.

Extracts from his "Meteorological Notes" for the day read as follows:

"Glancing at today's weather chart it is seen that there has been a sudden uprush of pressure due to the northerly extension from the anticyclone nucleus located yesterday between the head of the Bight and Cape Northumberland and barometers responded sharply between Tasmania and Brisbane. The weak anticyclone which has been in existence for many days between the Queensland coast and New Zealand has become part of the anticyclonic system between the North Island of the Dominion and Suva. This appears to have given opportunity for the tropical depression centred yesterday north-east from New Caledonia to move across the French Island though without cyclonic development and the centre at 9 a.m. today bore west-south-west from Gomen. The new depression between the far northern coast of Queensland and Woodlark Island is still a feature of the weather chart. Bearing in mind the season of the year, the development of a cyclonic disturbance is likely to take place at any time, but so far, conditions have not become so suspicious as to warrant the despatch of a warning."

Gomen on the north-west coast of New Caledonia is now more commonly known as Pagoumene.

In a special report issued at 9 a.m. Sunday 20th the Divisional Meteorologist summarised the position as follows:-

"The suspicions entertained last Friday of the development of a tropical disturbance were confirmed by Saturday's reports and a warning was accordingly sent to all principal coastal towns. Today's data give information of the most emphatic kind that a dangerous cyclonic disturbance is operating on our central coastline. The 9 a.m. reports indicated that a sharp decrease of pressure has taken place since 8 o'clock on Saturday night along the coast north from Sandy Cape but more particularly at Bowen and Mackay and there was no doubt at all that a very intense storm system was approaching the coast between Townsville and Cape Capricorn the centre being approximately north-east from Bowen. Tonight the centre bears about north-east from Mackay and is probably only about 150 miles distant from that place while a very heavy southerly to easterly gale is raging between Bowen and Sandy Cape. The centre is apparently moving south-south-westwards."

The cyclone crossed the coast at Mackay about 7.30 a.m. on the 21st as indicated by the report of a private observer Mr. T. Croker then in residence 3 miles from Mackay on the north side of the river. His report reads as follows:-

"At 9.30 p.m. 20th the barometer was reading 29.20 inches and the wind was fresh south-east. As time went on the wind increased to cyclonic force and the bar fell rapidly its hand constantly quivered and would frequently drop a point or two, immediately rise to where it fell from and as quickly fall a point or two again. Lowest reading was 27.54 inches at about 7.30 a.m. 21st. At this hour there was a sudden lull and the wind soon came from the north reaching cyclonic force in a very short space of time. As soon as the wind changed to the north the bar commenced to rise until it reached 28.80 inches at about 2 p.m. 21st when the wind commenced to ease."

By 8 p.m. on the 21st the centre had moved well inland and was located near 22.5°S, 147.5°E. Continuing as a heavy rain depression the centre moved slowly westwards to Central Australia and then after the 29th moved rapidly south-east across the central New South Wales coast to intensify slightly south of Lord Howe Island, on the 31st. It is interesting to note from the charts that the southern high which established itself over the Tasman Sea on the 19th remained as a block in that region until the 29th.

After the 31st the depression moved northeast eventually losing identity in the vicinity of the Loyalty Islands on 4 February. The track is shown in Fig. 6

3. THE EFFECTS OF THE CYCLONE AT MACKAY

The Postmaster Mackay described the position on the 21st as follows:-

"Terrific cyclone broke over Mackay about 3 a.m. raged all day. Town and Sydney St. Bridge practically wrecked. River and lower portion of town flooded. Many persons drowned as a result of tidal wave which swept up river and submerged all the eastern and south-eastern portion of Mackay. All steamers, tugs, barges and wharves either sunk or disabled. "Jay" ashore on bank above Sydney St. Bridge on north side."

and again on the 23rd he wrote:-

"Still raining heavily. Lightning and thundering all night. River in flood water almost covering the decking on remaining portion of Sydney St. Bridge. Street littered with barrels beer, cases kerosene, whisky and debris of every description. Mackay is devastated and reports from country state they have suffered similarly."

In a general description later on, of the extent of the damage the Postmaster made this interesting observation:-

"One peculiar thing was that salt and brackish water were found in household tanks which were in some cases a quarter of a mile from the river and in one case the salt water to reach the tank would have to be lifted 150 feet high."

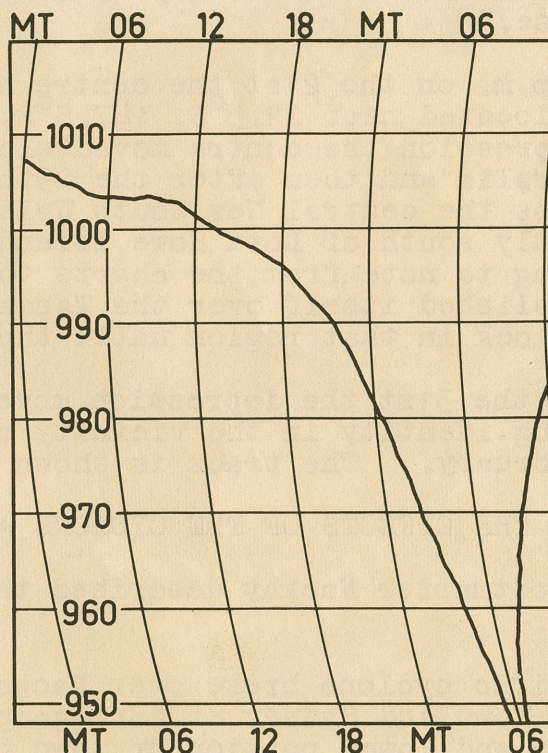


Fig. 7 : Mackay Post Office barogram, Sunday 20 January, to noon Monday 21 January 1918. NOTE: Pen was on flange for $\frac{1}{2}$ hour - lowest pressure 932.6 mb (27.54 inches).

A resident of Mackay made these comments:-

"While the wind certainly did most of the damage, the wave waters were responsible for the loss of life and it certainly was most fortunate that the waters came in the day light as if it had happened at night the loss of life would have been infinitely greater."

Visher and Hodge (1925) state that 30 lives were lost and estimated £1,000,000 pounds worth of property were destroyed at Mackay.

The January 1918 rainfall total for Mackay was 8509 points, of which 5556 points were the three day total of 2470 pts on the 22nd, 1725 pts on the 23rd, and 1361 pts on the 24th.

A copy of the Mackay Post Office barograph trace is shown in Fig. 7. The actual minimum reading at the Post Office is not known as the recording pen dropped to the flange of the barograph and remained there for about half an hour. The reading of 27.54 inches quoted earlier is that now officially accepted as the lowest pressure.

4. CONCLUSION

It probably could be said that with this cyclone the foundation of the present system of storm warning distribution was laid. This is indicated by two statements made by the Divisional Meteorologist Brisbane in his review of the storms:-

1. "No systematic warning from Brisbane of every Post Office in areas likely to be affected by a cyclone believed to be approaching any particular part of the coastline has hereto been attempted."
2. "As some ships have only one radio operator who has periods off duty it is recommended that coastal radio stations broadcast warnings at intervals of a couple of hours until the next warning is received."

Reference

Visher, S.S. and
Hodge, D.

1925

Bull. 16, Bureau of
Meteorology, Melbourne.

From W.J. Newell collection donated by Mrs M.E. Caffyn
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